

Fabrice Mouhartem

CV

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Nationality: French

Education

- PhD student**, L.I.P., É.N.S. de Lyon, France, Privacy-Enhancing Cryptography with Advanced Functionalities. **2015-now**
Advisor: Benoît Libert
- Master d'Informatique Fondamentale**, É.N.S. de Lyon, France, (university-level institution training teachers and researchers, entrance to which is based on a competitive exam. Equivalent to a Master of Science Degree in Computer Science). **2013-2015**
Cum Laude
- Licence d'Informatique Fondamentale**, É.N.S. de Lyon, France, (equivalent to a Bachelor of Science Degree in Computer Science). **2012-2013**
Cum Laude
- Classe préparatoire scientifique**, Lycée Charlemagne, Paris. **2010-2012**
(Post secondary preparatory class in science for competitive exam to the É.N.S.)
- Baccalauréat Scientifique**, Lycée d'Arsonval, Saint-Maur-des-fossés, Major : Maths, Physics, Biology. **2010**
Cum laude

Experience

Research

- Supervision of a one week internship**, É.N.S. de Lyon, Lyon, France. **May 2016**
Make a ninth grade student intern discover fundamental research laboratories
- 5 Month Research Internship**, É.N.S. de Lyon, Lyon, France, Design a lattice-based dynamic group signature scheme. **Spring 2015**
- 3 Month Research Internship**, Katholieke Universiteit Leuven, Leuven, Belgium, Implementation in MAGMA of the state of the art *discrete logarithm* solving algorithm in small characteristic with improvements on them. **Summer 2014**
- 6 Week Research Internship**, Inria, Rennes, France, Works on the BARRA simulator to implement techniques to improve energy efficiency of GPUs using data redundancy. **Summer 2013**
Introduction to research.

Teaching

- Teaching Assistant**, É.N.S. de Lyon, Lyon, France, Teaching assistant in *Architecture, System and Networks* (Bachelor), *Computational Complexity* (M1) and *Cryptography and Security* (M1). **2016-2017**
- Teaching Assistant**, É.N.S. de Lyon, Lyon, France, Teaching assistant in *Theory of Programming* (Bachelor) and *Computational Complexity* (M1). **2015-2016**
- Oral examination**, Lycée du Parc, Lyon, France, Oral exercises to post-secondary students to train them for competitive exams. **2013-2015**

Popularisation

- Origami in Math and C.S.**, É.N.S. de Lyon/MMI, Lyon. **April 2017**
Open access origami workshop about mathematical origamis.
- Origami in Math and C.S.**, É.N.S. de Lyon/MMI, Lyon. **2017**
Organisation of a bimonthly origami's workshops.
- Animator at Fête de la Science**, É.N.S. de Lyon, Lyon. **October 2015& October 2016**
Organisation of a workshop about mathematical origamis.

Programming Contests

Contestant for the ACM ICPC SWERC, Universidad do Porto, Porto, Portugal, November 2014 & 2015

Team algorithmic competition, participation in C++

Contestant for the ACM ICPC SWERC, Universitat de València, València, Spain, November 2013

Contestant for Prologim, EPITA, Paris, France, 2013

Individual algorithmic & A.I. competition, participation in C++

Publications

Conferences

B. Libert, S. Ling, F. Mouhartem, K. Nguyen, and H. Wang. Signature Schemes with Efficient Protocols and Dynamic Group Signatures from Lattice Assumptions. In *Asiacrypt'16*, pages 373–403, 2016. <http://ia.cr/2016/101>.

B. Libert, S. Ling, F. Mouhartem, K. Nguyen, and H. Wang. Zero-Knowledge Arguments for Matrix-Vector Relations and Lattice-Based Group Encryption. In *Asiacrypt'16*, pages 101–131, 2016. <http://ia.cr/2016/879>.

B. Libert, F. Mouhartem, and K. Nguyen. A Lattice-Based Group Signature Scheme with Message-Dependent Opening. In *ACNS'16*, pages 137–155. Springer, 2016. <https://hal.inria.fr/hal-01302790>.

B. Libert, F. Mouhartem, T. Peters, and M. Yung. Practical “Signatures with Efficient Protocols” from Simple Assumptions. In *AsiaCCS'16*, pages 511–522. ACM, 2016. <https://hal.inria.fr/hal-01303696>.

Talks

Conference talks

Asiacrypt, Hanoi, Vietnam, 25 min. December 2016
Signature Schemes with Efficient Protocols and Dynamic Group Signatures from Lattice Assumptions.

ACNS, University of Surrey, United Kingdom, 25 min. June 2016
A Lattice-Based Group Signature Scheme with Message-Dependent Opening.

AsiaCCS, Xi'an, China, 25 min. June 2016
Practical “Signatures with Efficient Protocols” from Simple Assumptions.

Seminars

Rennes Crypto Seminar, Rennes, France, 1 hour. June 2017
Adaptive Oblivious Transfer with Access Control for NC1 from LWE.

Journées du GT-C2, Inria Nancy – Grand Est, La Bresse, 30 min. April 2017
Adaptive Oblivious Transfer with Access Control for Branching Programs.

Lattice meeting, É.N.S. de Lyon, France, 1 hour. April 2017
Adaptive Oblivious Transfer from LWE.

Caen Crypto Seminar, Caen, France, 1 hour. November 2016
Signature Schemes with Efficient Protocols and Dynamic Group Signatures from Lattice Assumptions.

RAIM, Banyuls-sur-Mer, France, 30 min. June 2016
Group Signatures and Lattice-Based Cryptography.

AriC Crypto Fair, É.N.S. de Lyon, France, 10 min. June 2016
Lattice-Based Group Encryption.

Journées du GT C2, Université de Toulon, France, 25 min. October 2015
A Dynamic Group Signature Scheme based on Lattices.

Lattice meeting, É.N.S. de Lyon, France, 1h30. October 2015
Lattice-based group signature for dynamic groups.

Séminaire AriC, É.N.S. de Lyon, France, 1h. September 2015

Lattice-based dynamic group signature.

Popularisation

- Origami and computational complexity**, MFPP's National Days, Blois. **May 2017**
Popularisation talk about the link between origami and computational complexity.
- Rencontres du troisième cycle**, É.N.S. de Lyon, With Simon Castellan. **February 2017**
10 minutes presentation of what is a Ph.D. in Computer Science.
- Origami and computational complexity**, APMEP's National Days, Lyon. **October 2016**
Popularisation talk about the link between origami and computational complexity.
- Fête de la Science**, É.N.S. de Lyon, Lyon. **October 2016**
Popularisation talk about zero-knowledge proofs.
- Al-Kindi cryptography contest**, É.N.S. de Lyon, Lyon. **June 2016**
Overview of modern cryptography: the case of e-voting.
- Recreational Mathematics Seminar**, É.N.S. de Lyon/MMI. **October 2014 & March 2016**
Two popularisation talks: on *zero-knowledge proofs* and *mathematical origamis*.

Languages

French: Mother language **German**: Some German
English: Strong Level (in particular scientific English) **Malagasy**: Basic

Computer Skills

Use of Linux and Windows. Knowledge in Microsoft Office & \LaTeX usage. Proficient in C/C++ and OCaml. Familiar with Python/Sage, Bash scripting, gnuplot and magma CAS.

Interests

Paper folder, dancer (rock'n'roll, waltz, chachacha ...), table tennis player, and also popularization on Wikipedia.

Origami

- Vice-president of the MFPP**, Paris. **2017-...**
Vice-President of the French Origami Association
- F. Mouhartem Flying duck. In *Origami du vivant. Pliages du monde qui bouge, nage ou vole*. Vol. 2. pp. 13–14. Ed. M. Lucas. ISBN: 978-2-9556489-1-9